TWO NEW ALOES FROM SOUTHERN RHODESIA

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(With Plates XXI and XXII)

Aloe ballii Reynolds. Species nova, arcte affinis *A. bellatula* Reynolds (Madagascar) racemis pedicellis floribusque sed non foliis; affinis *A. inyangensis* Christian (Inyanga, S. Rhodesia) foliis distichous carnosis sed non floribus.

Planta parva, succulenta, saepe pendens, caulibus 20—30 cm. longis, (interdum usque 1—1·5 m. longis). *Folia* 8—10, disticha, 20—30 cm. longa, basi 10 mm. lata, sensim attenuata; *supra* canaliculata, viridia, basi maculata *subtus* convexa, basi copiose maculata; marginibus dentibus minutis albidis 2—4 mm. distantibus ciliata, superne inderdum integra.

Inflorescentia simplex, 50—60 cm. longa. *Pedunculus* basi plano-convexus et 5 mm. latus. *Racemus* cylindrico-acuminatus, 12—18 cm. longus, 4 cm. diam., 40—50-floribus. *Bracteae* ovato-acutae, 3 mm. longae, 2 mm. latae, 3—5-nervatae. *Perianthium* aurantiacum, cylindrico-campanulatum, 12—16 mm. longum, basi brevissime stipitatum, circa ovarium 4 mm. diam.; *segmenta exteriora* libera; *interiora* carinata. *Antherae* inclusae. *Stigma* demum non exsertum. *Ovarium* viridulum, 2·5 mm. longum, 1·5 mm. diametro. (Plate XXI).

SOUTHERN RHODESIA. Melsetter District, Haroni Gorge at confluence of the Haroni and Chesenga Rivers (South of the Chimanimani Range) Cult. hort. Bullock Bulawayo, fl. 13 Oct. 1963, Bullock 37/1 holotype (SRGH), isotype (K, PRE); cult. Mbabane Swaziland, fl. 9 Feb. 1964, Bullock et Reynolds 10115 (SRGH, PRE, K).

Our most distinctive new species is named after Mr. John Ball of Melsetter, S. Rhodesia, who discovered it flowering in November 1962, in a deep gorge, at the confluence of the Haroni and Chesengu Rivers at the southern end of the Chimanimani Range. This locality is 1¾ miles north-west of Point 74 of the Moçambique—S. Rhodesia border, at an altitude of 1,250 feet.

The following June Mr. Ball and Mr. E. J. Bullock of Bulawayo visited the locality again and collected several plants, but unfortunately no herbarium specimens were prepared, and no photographs taken.

Some plants grown by Mr. Bullock in Bulawayo flowered in October 1963, and some cultivated at Mbabane flowered in January and February 1964. Photographs were then secured, specimens made, and the description was drawn up.

Mr. Bullock found plants in leaf mould and sand amongst tussocks of grass wedged in crevices of large quartzite rocks and on sheer rock faces. He wrote "When the stem is a few inches long it starts sending out its distichous leaves slightly out of line with the previous ones so that the plant develops a twist. When this happens to a plant growing over the edge of a rock face the stem develops a spiral twist. In moist conditions a long 'dead' spiral stem may suspend the viable stem like a spring. From the original growing point to the viable stem the length of this 'dead' part of stem may be up to 150 cm." In cultivation, numerous shoots appear at random along the growing stem, while the inflorescence is produced obliquely to horizontally or obliquely downwards. A striking character of *A. ballii* is its short cylindric-campanulate flowers only 12—16 mm. long, the pedicels being slightly longer. No other aloe species in Africa is known with such flowers, but the Madagascar species *A. bellatula* Reynolds is very closely allied in floral characters only—see this *Journal* 22 : 132 (1956). In leaf clusters and leaf characters they bear no resemblance whatever to each other. In leaf characters only *A. ballii* appears to be nearest allied to some weak forms of *A. inyangensis* Christian.

DESCRIPTION

Plant small, usually pendulous, developing long spirally coiled smooth stems 1—1·5 m. long when hanging down sheer rock faces, the terminal viable portion 20—30 cm. long, 9 mm. diam.

Leaves 8—10, distichous, basally amplexicaul, 20—30 cm. long, 10 mm. broad near base, gradually narrowing to an acute apex; *upper surface* canaliculate, green, with several white or very pale green elongated spots scattered in lower quarter; *lower surface* convex, green, usually copiously white-spotted near base; *margins* with minute white teeth about 2—4 mm. apart low down, obsolescent upwards.

Inflorescence simple, 50—60 cm. long, produced obliquely to horizontally or obliquely downwards with the raceme sometimes slightly up-turned.

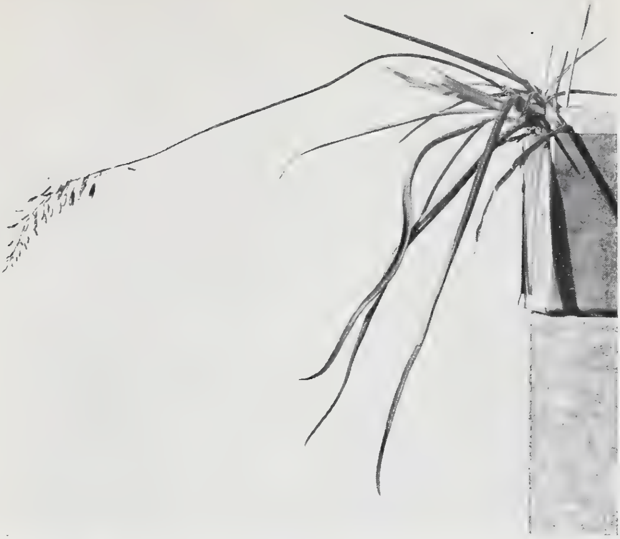
Peduncle basally plano-convex and 5 mm. broad, terete and 3 mm. thick upwards, clothed with a few sterile-bracts that are ovate-acute, 5 mm. long, 3 mm. broad, 3—5-nerved, the racemose portion the colour of the perianth and pedicels.

Raceme cylindric-acuminate, 12—18 cm. long, 4 cm. diam. at base, sublaxly 40—50-flowered, youngest buds erect, open flowers nutant.

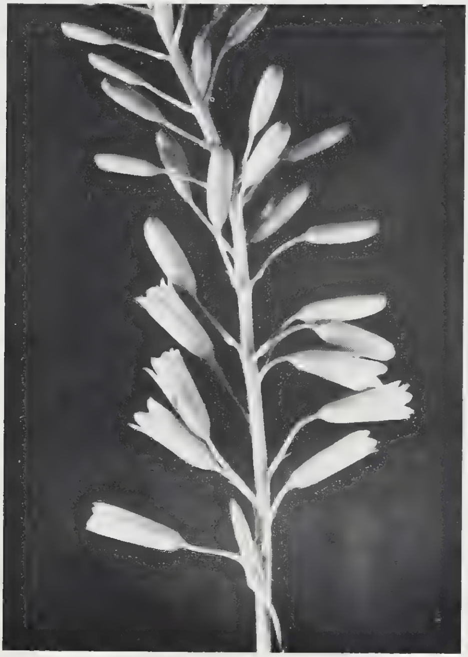
Bracts ovate-acute, 3 mm. long, 2 mm. broad, thin, 3—5-nerved.

Pedicels very slender, 14—20 mm. long, longer than, and the colour of the perianth.

Perianth 12—16 mm. long, cylindric slightly campanulate, flame-scarlet to pale reddish-orange, basally tapering into the pedicel, 4 mm. diam. across the

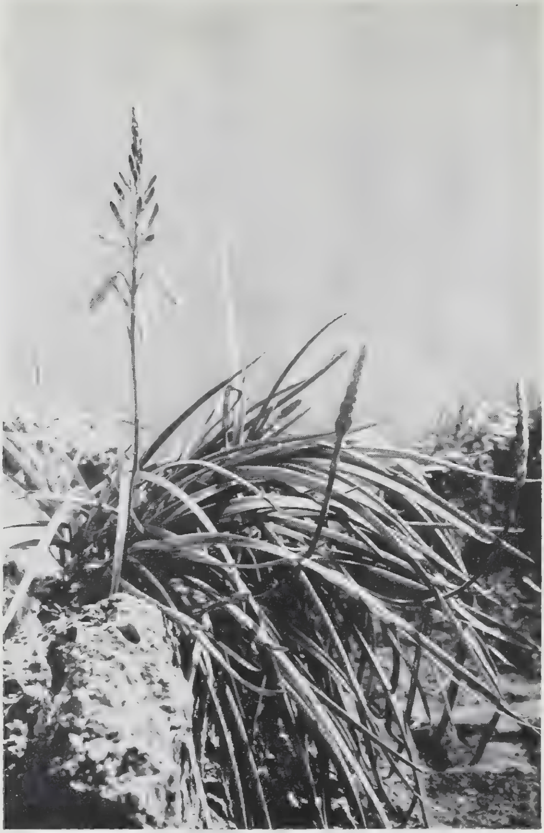


Aloe ballii Reynolds. Plant from the Haroni Gorge, south of the Chimanimani Mts. Melsetter Dist. S. Rhodesia, flowering at Mbabane Swaziland. × 1/7 approx.

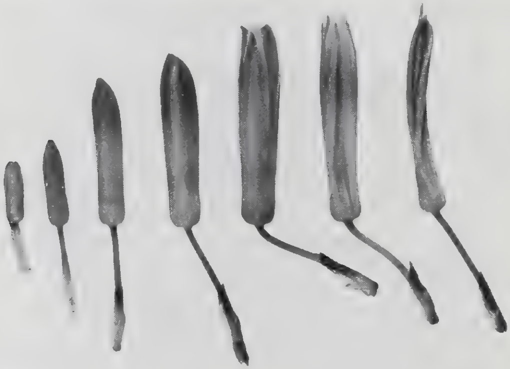


Aloe ballii Reynolds. Portion of raceme, natural size.

PLATE XXI



Aloe musapana Reynolds. From Musapa Mtn., 10 miles N. of Melsetter, S. Rhodesia, flowering at Mbabane, Swaziland. Height of inflorescence 35 cm.



Aloe musapana Reynolds. Flowers natural size, from bud to post-pollination stage.

PLATE XXII

ovary, enlarging a little to a wide open mouth; *outer segments* free to base, apices slightly spreading; *inner segments* with 3 crowded nerves forming a scarlet keel throughout. *Filaments* almost white, the 3 inner narrower and lengthening before the 3 outer with their *anthers* not exserted. *Stigma* at length not exserted. *Ovary* green, 2·5 mm. long, 1·5 mm. diam.

Aloe musapana Reynolds. Species nova, *A. nyangensis* Christian affinis, bracteis parvis, pedicellis et floribus brevioribus differt.

Planta succulenta, caulibus usque 20 cm. longis. *Folia* c. 10, disticha, patentia vel saepe falcato-decurva, linearia, c. 30 cm. longa, 15 mm. lata; *supra* viridia, canaliculata, immaculata vel interdum maculis paucis sparsis; *subtus* convexa, basi copiose maculata; marginibus dentibus minutis albidis ciliata.

Inflorescentia simplex, c. 30—40 cm. alta. *Racemus* cylindraceo-acuminatus, 15 cm. longus, 6 cm. diam. *Bracteae* ovato-acutae, 10 mm. longae, 6 cm. latae, scariosae, multinervae. *Pedicelli* 20 mm. longi. *Perianthium* coccineum, cylindraceo-trigonum, 28—30 mm. longum, 6 mm. diam.; *segmenta exteriora* libera. *Antherae* 1—2 mm. exsertae. *Stigma* demum 2 mm. exsertum. *Ovarium* 5 mm. longum, 2 mm. diam. (Plate XXII).

SOUTHERN RHODESIA. Melsetter District, Musapa Mountain, 10 miles north of Melsetter, alt. 6,500 ft., cult. Bulawayo, fl. 10 Mar. 1963, E. J. Bullock 36—1, holotype (SRGH); cult. Mbabane, Swaziland, fl. 30 March 1964, Bullock et Reynolds 10092, isotype (PRE, K).

A. musapana is named after the locality where Mr. E. J. Bullock of Bulawayo first found plants in January 1961, namely Musapa Mountain (7,040 ft.) which is 10 miles north of Melsetter and west of the northern end of the Chimanimani Range, in the eastern parts of Southern Rhodesia. Mr. Bullock found plants on northern, north-western and southern sheer rock faces on Musapa Mountain in conditions of full summer and winter sunshine, at an altitude of between 6,250 and 6,750 feet. Plants flower there from March to May.

A. musapana appears to be nearest allied to the weaker forms of *A. inyangensis* Christian from which it differs in having leaves with smaller marginal teeth, a much slenderer peduncle with much smaller sterile-bracts. The youngest buds of *A. musapana* are not at first hidden by large imbricate bracts as they are in *A. inyangensis*, while the bracts are smaller, the pedicels are shorter (20 mm. against 25—30 mm.) and the perianth is also slenderer and shorter i.e. 30 mm. 35—40 mm.

In cultivation, plants increase rather quickly, especially if watered, and flower prolifically.

DESCRIPTION

Plant mostly pendent, with several stems up to 20—30 cm. long, 1 cm. diam., with numerous shoots near base or higher, forming dense groups.

Leaves distichous, about 10, basally amplexicaul, spreading to falcately decurved, linear, gradually narrowing to an acute apex, 15 mm. broad near base, 30—40 cm. long; *upper surface* dark green, canaliculate with or without a few white spots low down; *lower surface* convex, copiously spotted near base, the spots dirty-white, lenticular; *margins* with white cartilaginous teeth that are minute near base, obsolescent upwards.

Inflorescence simple, 30—40 cm. long.

Peduncle rather slender, basally plano-convex and 5 mm. broad, terete and 4 mm. thick upwards, with a few sterile-bracts that are ovate-acute, thin, scarious, brownish, 12 mm. long, 7 mm. broad, many-nerved.

Racemes cylindric-acuminate, 15 cm. long, 6 cm. broad, subdensely flowered, the youngest buds suberect, scarlet with greenish tips, open flowers pendulous, scarlet, pale greenish at mouth.

Bracts ovate-acute, the lowest 10 mm. long, 6 mm. broad at base, thin, scarious, many-nerved.

Pedicels 20 mm. long, slender, the colour of the perianth.

Perianth scarlet, pale green at mouth, cylindric slightly trigonous, 28—30 mm. long, 6 mm. diam., across the ovary, slightly enlarging to the throat; *outer segments* free to base, obscurely 3-nerved, the apices subacute; *inner segments* broader than the outer, thin at the edge, with 3 crowded nerves forming a scarlet keel turning green at the broader apices.

Filaments filiform-flattened, very pale rose, the 3 inner narrower and lengthening before the 3 outer with their *anthers* in turn exserted 1—2 mm. *Stigma* at length exserted 2 mm. *Ovary* pale olive, 5 mm. long, 2 mm. diam.

ACKNOWLEDGMENTS

I am deeply indebted to:

Mr. E. J. Bullock of Bulawayo for considerable assistance in collecting and sending several plants of *A. ballii* and a large clump of *A. musapana* to me, for preparing several herbarium specimens of both species, for copies field notes, for colour photographs and much other invaluable assistance.

Mr. John Ball of Melsetter for hospitality when I visited Melsetter, for conducting me to The Corner, and along the Chimanimanis, and for much help with the Aloes of those regions.

Dr. L. E. Codd, Chief, Botanical Research Institute, Pretoria, for photographs and for the facilities of the National Herbarium, Pretoria.

The South African Council for Scientific and Industrial Research for travelling grants that have enabled me to investigate the Aloes in most parts of the continent of Africa.

BOOK REVIEW

FAMILIES OF FLOWERING PLANTS OF SOUTH AFRICA, by Hubert Parkes Riley. University of Kentucky Press, U.S.A. 296 pages with 3 maps and 144 full colour illustrations. Price $14.00.

Professor H. P. Riley head of the department of botany at the University of Kentucky, has visited South Africa several times and is well known as the author of works on genetics and cytogenetics. In his preface to *Families of Flowering Plants of Southern Africa*, he mentions that it was not primarily written for the botanists of Southern Africa themselves, but he hopes that the book might be of some interest to them.

To the South African botanist who is familiar with the indigenous flora, and has repeatedly been assured that it is unique and has come to regard it as something apart, and most plants grown in private gardens as "exotics" and those aliens which have gone rampant and threaten its very existence as "Green-cancers", Professor Riley's book brings the Families of Southern Africa into a refreshingly new perspective. as an integral part of a continental and a world flora, in an American setting. For what South African, botanist or layman tends to think of *Protea* as belonging to the silk-oak family, or *Pacypodium* to the dogbane or periwinkle family?

The author has woven a great amount of information on a number of different aspects of botany, including the chromosome numbers of many of the genera, common names and economic uses, illustrated with three maps and 144 excellent colour pictures, into a work which is both valuable as a reference book to all botanists, as well as an eminently readable one full of interesting and often surprising information to anyone, as he puts it, "whose major concern is Southern Africa in all its aspects".

Its bold headings and excellent print are added recommendations and facilitate its use.

W. F. BARKER.